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A NEW SPECIES OF FROG OF THE GENUS *TELMATOBIUS* FROM CHILE

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Since Barbour and Noble (1920) revised the South American bufonids of the genus *Telmatobius* our knowledge of the southern representatives of this group has been greatly improved by a taxonomic study by Schmidt (1928) and a life-history study by Fernandez (1926). *Telmatobius* is a bufonid of especial phylogenetic interest because it merges by small intergradations into *Batrachophrynus*, a genus which in older classifications was placed in a different family. *Batrachophrynus* differs from *Telmatobius* chiefly in the loss of maxillary teeth. It is however a lake frog while *Telmatobius* abounds along small streams and ponds. The loss of maxillary teeth in this natural group of bufonids is correlated with a life in the deep, cold waters of Andean lakes.

It is therefore a matter of phylogenetic interest that the International High Altitude Expedition to Chile collected a series of *Telmatobius* from a warm spring near Ollague, Chile, which although resembling *T. peruvianus* Wiegmann closely, differs remarkably in the great reduction of the maxillary teeth. Only a few small tooth rudiments are visible on the upper jaw of these specimens. The reduction in size and number of the maxillary teeth in the *Telmatobius-Batrachophrynus* group of bufonids is not therefore always dependent on cold, deep water for its realization.

The series of *Telmatobius* collected at Ollague differs not only in dentition but in several other features from typical *T. peruvianus*. They have longer, flatter snouts, smoother dorsal skin and shorter hind legs. They represent in fact a new species which I take pleasure in naming after Dr. F. G. Hall, zoologist of the expedition and collector of the series of both adults and larvae which forms the basis of the following description.

Telmatobius halli, new species

TYPE LOCALITY.—Warm spring near Ollague, Chile, 10,000 ft. altitude, June, 25, 1935, Dr. F. G. Hall, collector.

MATERIAL.—Five adult females, one sexually immature female and six tadpoles, all collected from the same spring as the type.

DESCRIPTION OF TYPE SPECIMEN. A.M.N.H. No. 44753, adult female. Tongue oval, entire, two-thirds the width of mouth at its greatest transverse diameter; vomerine teeth absent; snout flat, without canthus rostralis; distance between nostril and anterior corner of the eye equal to greatest diameter of the eye; nostril slightly nearer the tip of snout than the eye; interorbital width approximately equal to upper eyelid; eyes set at angle of 45 degrees with the midline, no tympanum; first finger a little longer than the second; toes webbed to the tips but so emarginate that they appear only half webbed; subarticular tubercles prominent, continued as rows of small tubercles on the sole of foot and tarsus; inner metatarsal tubercle about twice as long as the outer; inner margin of the first toe continued as a fold along the inner margin of the tarsus; tibio-tarsal joint carried forward extends to the posterior margin of the eye. Dorsum practically smooth, only a few feeble tubercles being present; a few tubercles on the posterior surfaces of the thigh, these becoming prominent around and below the vent; skin on the remainder of legs, and upper surfaces of arms smooth; on lower surfaces of arms skin slightly tubercular.

Very dark brown above, finely spotted with white on the sides of body, upper jaw olive spotted with dark brown.

MEASUREMENTS

Length of head and body	57 mm.
Arm from axilla	32 mm.
Leg from groin	89 mm.
Tibia	25 mm.
Greatest width of head	19 mm.

VARIATION.—The series of five paratypes (A.M.N.H. No. 44754–8) differs consistently from *T. peruvianus* in being spotted above. In the type the spotting was restricted to the sides of the body. In two of the paratypes the pale body color is dominant and both head and body are predominantly pale brown finely marbled or spotted with a darker tone.

It is remarkable that four of the five paratypes—like the type—are sexually mature females and yet they vary considerably in size. The smallest of these ripe females is 42 mm. in head and body length while the largest, the type, is 57 mm.

In *T. peruvianus* the maxillary teeth average about 0.6 mm. in height. In the present species the maxillary teeth are mere rudiments a half or a third this size. In all of the paratypes the teeth do not penetrate the mucosa of the jaws but may be found with the help of a needle on the more anterior sections of the maxillae.

The six tadpoles (A.M.N.H. No. 44759) in the series are large, ranging in total length from 70 to 83 mm. The smallest have the limb rudiments barely visible, while the largest have the hind legs 15 mm. long. The tadpoles differ consistently from the tadpole of *T. aemaricus* described and figured by Fernandez (1926) in having long pointed tails.

These are a third longer than the head and body instead of being only a little longer as in *T. aemaricus*. The dorsal fin is, however, narrow as in *T. aemaricus* and the distal third or two-fifths is thickly spotted with dark brown as in that form. The color of the head and body is uniform brown irregularly spotted with a lighter brown. Apparently the body is more spotted than that of *T. aemaricus* to judge from Fernandez' figure.

It is remarkable, however, that the mouth parts of the tadpoles in the present series should be apparently identical to those of *T. aemaricus*. Further, the tooth-rows of *T. peruvianus*, as stated by Schmidt (1928), have the same number and form. The sinistral spiracle and dextral vent are the same as in *T. aemaricus*. In brief, the tadpole of *T. halli* agrees closely with that of *T. aemaricus* as described by Fernandez (1926), but differs in its longer and more pointed tail. Further, while the tail is spotted much as in that species, the head and body appear to be more spotted.

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